

Appl. No. 09/719,709
Arndt, Dated January 8, 2004
Reply to Office action of October 8, 2003
Attorney Docket No. P09410-US1
EUS/J/P/04-3005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of transmitting and receiving an image between a transmitter and a receiver, comprising,
when transmitting the image: the steps of:
performing a forward transformation on the image to be transmitted;
defining the required regions of interest in the image;
creating a mask describing transform coefficients for reconstructing each region of interest;
utilizing the mask to classify the transform coefficients into segments;
coding each segment independently;
concatenating the bit stream of each segment together with necessary stream and header information; and
sending the concatenated bit stream to the receiver; and
when receiving the image:
receiving the concatenated bit stream and decoding the header information;
locating and decoding the segment information associated with the regions of interest in the concatenated bit stream;
creating a mask describing which coefficients are needed for reconstructing the segments of each region of interest;
decoding the needed segment data from the concatenated bit stream; and
reconstructing the needed segments for displaying the reconstructed segments.
dividing the image into at least two image regions;
coding the image regions into a coded symbol stream, said coding utilising a symbolic representation and having predetermined accuracy levels in said image regions;
compressing the coded symbol stream into a compressed bit stream;

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~~generating a definition of an outer boundary line of at least one of the image regions;~~
~~transmitting said definition to the receiver;~~
~~transmitting the compressed bit stream to the receiver; and~~
~~decoding in the receiver with the aid of said definition~~

2. (Currently Amended) The method of claim 1, wherein ~~[[two]] prior to transmitting the image,~~ different image regions are coded to have ~~said predetermined accuracy levels independent~~ independently of each other.

3. (Canceled)

4. (Currently Amended) The method of claim 1, ~~2 or 3, wherein when receiving the image,~~ only predetermined parts of the compressed bit stream are decoded.

5. (Currently Amended) The method of ~~claim 1 any of the claims 1, 2, or 3, further comprising generating a topology description, prior to transmitting the image, defining the topological relationship between objects and shapes in the image.~~

6. (Currently Amended) The method of ~~claim 1 any of the claims 1, 2, or 3, further comprising generating a shape description, prior to transmitting the image, defining the appearance of for determining the closed boundary line of an object in the image.~~

7. (Currently Amended) The method of ~~claim 1 any of the claims 1, 2, or 3, further comprising generating a segment description prior to transmitting the image, defining which determining the transform coefficients that belong to a respective segment.~~

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8. (Currently Amended) The method of claim 7, further comprising generating a subset description, prior to transmitting the image, defining which determining the transform coefficients that belong to an independently decodable part of a segment.

9. (Currently Amended) The method of claim 8, further comprising generating a pointer, prior to transmitting the image, for defining a position in the bit stream of a descriptor associated with an object in the image, for the respective one of the above-mentioned descriptions.

10. (Currently Amended) An arrangement for transmitting an image, comprising:

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- a transmitter and a receiver, wherein the transmitter comprises:
 - means for performing a forward transformation on the image to be transmitted;
 - means for defining the required regions of interest in the image;
 - means for creating a mask describing transform coefficients for reconstructing each region of interest;
 - classification means for utilizing the mask to classify the transform coefficients into segments;
 - a coding device for coding each segment independently and to provide the number of bits for each segment;
 - concatenating means for concatenating the bit stream of each segment together with necessary stream and header information; and
 - means for sending the concatenated bit stream to the receiver; and
 - wherein the receiver comprises:
 - receiver means for receiving the concatenated bit stream and decoding the header information;
 - means for locating and decoding the segment information associated with the regions of interest in the bit stream;

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means for creating a mask describing which coefficients are needed for reconstructing the segments of each region of interest;
a decoder for decoding the needed segment data from the bit stream; and
reconstructing the needed segments for displaying the reconstructed segments;
means for dividing the image into at least two image regions;
a coding device for coding the image regions into a coded symbol stream, said coding device utilising a symbolic representation and having predetermined accuracy levels in said regions;
a compressing device for compressing the coded symbol stream into a compressed bit stream; and
means in the transmitter for transmitting said compressed bit stream to the receiver;
means for generating a definition of an outer boundary line of at least one of the image regions;
means in the transmitter for transmitting said definition to the receiver; and
a decoder in the receiver for decoding of the compressed bit stream with the aid of said definition.

11. (Currently Amended) The arrangement of claim 10, wherein the coding device is arranged to encode [[two]] different image regions to have [[the]] predetermined accuracy levels independent of each other.

12. (Canceled)

13. (Currently Amended) The arrangement of claim 10, [[11, or 12,]] wherein the decoder is arranged to decode only predetermined parts of the compressed bit stream.

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14. (Currently Amended) The arrangement of claim 10 [[, 11, or 12]] wherein the transmitter has means for generating a topology description, defining the topological relationship between objects and shapes in the image.

15. (Currently Amended) The arrangement of claim 10 [[, 11, or 12]] wherein the transmitter has means for generating a shape description, defining the appearance of the closed boundary line of an object in the image.

16. (Currently Amended) The arrangement of claim 10, [[11, or 12,]] wherein the transmitter has means for generating a segment description, defining determining which transform coefficients [[that]] belong to a respective segment.

17. (Currently Amended) The arrangement of claim 16, wherein the transmitter has means for generating a subset description, defining determining which transform coefficients [[that]] belong to an independently decodable part of a segment.

18. (Currently Amended) The arrangement of claim 17, wherein the transmitter has means for generating a pointer, defining that identifies a position in the bit stream for the respective one of the above mentioned descriptions.